

ABSTRACT OF THE DISCLOSURE

The present invention is a method and apparatus for a rotating, tunable, holographic drop filter connected to a fiber optic source. The filter uses a quasi phase-conjugate optical system for a drop-channel fiber coupling and WDM channels which are introduced to the system. The light from these channels is collimated and passed through a volume phase holographic material so that only one WDM channel is diffracted and the rest pass through the holographic material unaffected. A quasi phase-conjugate diffracted beam is generated by the optical system to reflect the diffracted channel back towards the holographic material.

5      The reflected light is Bragg matched to the holographic material so that it is re-diffracted along a path identical to the original incident light beam. A free-space circulator may be used to direct the diffracted beam to a fiber optic collimator, which is different from the fiber optic collimator of the incident light beam.

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PCT/US2003/032325